What is claimed is:

1. An image searching system comprising:

an image database storing a plurality of database
images to be searched for; a specifying controller for
specifying a plurality of key images used to specify search
conditions;

an extracting controller for extracting common feature
values of common images from the plural key images
specified by the specifying controller;

a calculating controller for comparing the common
feature values, extracted by the extracting controller,
with the feature values of the plural database images to
thereby sequentially calculate similarities between the
common feature values and the database image feature
values; and

a searching controller for retrieving from the
database images one of the images which is similar to the
key image, based on a similarity calculated by the
calculating controller.

2. The system as claimed in Claim 1, wherein the
extracting controller includes:

an extracting means for extracting a plurality of
types of the feature quantities from the respective key
images specified by the specifying controller;

a selecting means for comparing the feature quantities, extracted by the extracting means, among the plural key images specified by the specifying controller to thereby select at least one of the types of the feature quantities; and

a determining means for determining the common feature quantities based on the at least one type of the features quantities selected by the selecting means.

3. The system as claimed in Claim 2, wherein the selecting means is operable to compare the feature quantities of the same types among the plural key images specified by the specifying controller and wherein the determining means is operable to calculate an average value of the feature quantities of the plural key image with respect to the types of the feature quantities selected by the selecting means, to thereby determine the calculated average value as representing the common feature quantities.

4. An image searching system which comprises:

an image database storing a plurality of database images to be searched for;

a specifying controller for specifying a plurality of key images used to specify search conditions;

a calculating controller for comparing the plural images, specified by the specifying controller, with the plural database images to thereby calculate similarities

between the common feature values and the database image feature values;

a selecting controller for retrieving a particular key image from the specified images based on the similarities calculated by the calculating controller; and

a searching controller for retrieving the images from the database images based on the similarity between the key image, selected by the selecting controller, and the database images.

5. The system as claimed in Claim 4, wherein the selecting controller is operable to select as a particular one of the plural specified key images, the key images which most resemble to the database images being searched for.

6. The system as claimed in Claim 5, wherein the calculating controller is operable to calculate a plurality of types of the feature quantities from the plural key images and then to calculate a degree of similarity by comparing the feature quantities with the database images for each type, and wherein the selecting controller selects, as the particular key image from the plural specified images, the key images which most resemble to the database images being searched with respect to an average value of degrees of similarities calculated by the calculating means for each type of the feature quantities.

7.   An image searching system which comprises:

an image database storing a plurality of database images to be searched for;

a specifying controller for specifying a plurality of key images used to specify search conditions;

5   a first calculating controller for comparing all of the key images, specified by the specifying controller, with respective feature values of the database images to thereby calculate similarities therebetween;

10   a second calculating controller for selecting a particular key image from the plural key images specified by the specifying controller and for comparing the particular key image with the database images to thereby calculate similarities therebetween;

15   a third calculating controller for calculating a final similarity for use in searching based on the similarities calculated respectively by the first and second calculating controllers; and

a searching controller for retrieving one of the
20   database images, which is similar to the particular key image, based on the final similarity calculated by the third calculating controller.

8.   The image searching system as claimed in Claim 7, wherein the third calculating controller is operable to
25   increase a weight of the degree of similarity, calculated

by the first calculating controller, to a value greater than that of the degree of similarity, calculated by the second calculating controller, to thereby calculate the final degree of similarity.

5   9.   The image searching system as claimed in claim 8, wherein the first calculating controller is operable to extract the common feature quantities of the image common to all of the key images, and to compare those common feature quantities with the database image to thereby
10   calculate the degree of similarity.

10.   The image searching system as claimed in Claim 9, wherein the second calculating controller is operable to select the key images most similar to the database image from the key images and to calculate the degree of
15   similarity.

11.   An image searching method which comprises the steps of:

storing a plurality of database images to be searched for in a database;

20   specifying a plurality of key images used to specify search conditions by means of a specifying controller;

extracting by means of an extracting controller, common feature values of common images from the plural key images specified by the specifying controller;

25   comparing by means of a calculating controller, the

common feature values, extracted by the extracting controller, with the feature values of the plural database images to thereby sequentially calculate similarities between the common feature values and the database image

5   feature values; and

retrieving from the database images one of the images which is similar to the key image, based on a similarity calculated by the calculating controller, by means of a searching controller.

10   12.   The method as claimed in Claim 11, wherein the extracting step includes the sub-steps of extracting a plurality of types of the feature quantities from the respective key images specified by the specifying controller; comparing by means of a selecting means the

15   feature quantities, extracted by the extracting sub-step, among the plural key images specified by the specifying controller to thereby select at least one of the types of the feature quantities; and determining the common feature quantities based on the at least one type of the features

20   quantities selected by the selecting means.

13.   The method as claimed in Claim 12, wherein the selecting means is operable to compare the feature quantities of the same types among the plural key images specified by the specifying controller and wherein the

25   determining means is operable to calculate an average value

of the feature quantities of the plural key image with respect to the types of the feature quantities selected by the selecting means, to thereby determine the calculated average value as representing the common feature quantities.

5 14.   An image searching method which comprises the steps of:

storing a plurality of database images to be searched for in an image database;

specifying a plurality of key images used to specify 10 search conditions by means of a specifying controller;

comparing by means of a calculating controller, the plural images, specified by the specifying controller, with the plural database images to thereby calculate similarities between the common feature values and the 15 database image feature values;

retrieving a particular key image from the specified images based on the similarities calculated by the calculating controller, by means of a selecting controller; and

20   retrieving the images from the database images based on the similarity between the key image, selected by the selecting controller, and the database images, by means of a searching controller.

15.   The method as claimed in Claim 14, wherein the 25 selecting controller is operable to select as a particular

one of the plural specified key images, the key images which most resemble to the database images being searched for.

16.   The method as claimed in Claim 15, wherein the calculating controller is operable to calculate a plurality of types of the feature quantities from the plural key images and then to calculate a degree of similarity by comparing the feature quantities with the database images for each type, and wherein the selecting controller selects, as the particular key image from the plural specified images, the key images which most resemble to the database images being searched with respect to an average value of degrees of similarities calculated by the calculating means for each type of the feature quantities.

17.   An image searching method which comprises the steps of:

storing a plurality of database images to be searched for in an image database;

specifying a plurality of key images used to specify search conditions by means of a specifying controller;

comparing all of the key images, specified by the specifying controller, with respective feature values of the database images to thereby calculate similarities therebetween, by means of a first calculating controller;

selecting by means of a second calculating controller,

a particular key image from the plural key images specified by the specifying controller and for comparing the particular key image with the database images to thereby calculate similarities therebetween;

5   calculating, by means of a third calculating controller, a final similarity for use in searching based on the similarities calculated respectively by the first and second calculating controllers; and

       retrieving by means of a searching controller, one of the database images, which is similar to the particular key image, based on the final similarity calculated by the third calculating controller.

18.   The image searching method as claimed in Claim 17, wherein the third calculating controller is operable to increase a weight of the degree of similarity, calculated by the first calculating controller, to a value greater than that of the degree of similarity, calculated by the second calculating controller, to thereby calculate the final degree of similarity.

19.   The image searching method as claimed in claim 18, wherein the first calculating controller is operable to extract the common feature quantities of the image common to all of the key images, and to compare those common feature quantities with the database image to thereby calculate the degree of similarity.

20.　　　　The image searching method as claimed in Claim 19, wherein the second calculating controller is operable to select the key images most similar to the database image from the key images and to calculate the degree of

5　　similarity.

21.　　　　A recording medium storing therein a computer-executable image searching program, said program comprising:

　　　　storing a plurality of database images to be searched

10　　for in a database;

　　　　specifying a plurality of key images used to specify search conditions by means of a specifying controller;

　　　　extracting by means of an extracting controller, common feature values of common images from the plural key

15　　images specified by the specifying controller;

　　　　comparing by means of a calculating controller, the common feature values, extracted by the extracting controller, with the feature values of the plural database images to thereby sequentially calculate similarities

20　　between the common feature values and the database image feature values; and

　　　　retrieving from the database images one of the images which is similar to the key image, based on a similarity calculated by the calculating controller, by means of a

25　　searching controller.

22.   The recording medium as claimed in Claim 21, wherein the extracting controller includes an extracting means for extracting a plurality of types of the feature quantities from the respective key images specified by the

5   specifying controller; a selecting means for comparing the feature quantities, extracted by the extracting sub-step, among the plural key images specified by the specifying controller to thereby select at least one of the types of the feature quantities; and a determining means for

10   determining the common feature quantities based on the at least one type of the features quantities selected by the selecting means.

23.   The recording medium as claimed in Claim 22, wherein the selecting means is operable to compare the

15   feature quantities of the same types among the plural key images specified by the specifying controller and wherein the determining means is operable to calculate an average value of the feature quantities of the plural key image with respect to the types of the feature quantities

20   selected by the selecting means, to thereby determine the calculated average value as representing the common feature quantities.

24.   A recording medium storing therein a computer-executable image searching program, said program

25   comprising:

storing a plurality of database images to be searched for in an image database;

specifying a plurality of key images used to specify search conditions by means of a specifying controller;

5 comparing by means of a calculating controller, the plural images, specified by the specifying controller, with the plural database images to thereby calculate similarities between the common feature values and the database image feature values;

10 retrieving a particular key image from the specified images based on the similarities calculated by the calculating controller, by means of a selecting controller; and

retrieving the images from the database images based 15 on the similarity between the key image, selected by the selecting controller, and the database images, by means of a searching controller.

25. The recording medium as claimed in Claim 24, wherein the selecting controller is operable to select as a 20 particular one of the plural specified key images, the key images which most resemble to the database images being searched for.

26. The recording medium as claimed in Claim 25, wherein the calculating controller is operable to calculate 25 a plurality of types of the feature quantities from the

plural key images and then to calculate a degree of similarity by comparing the feature quantities with the database images for each type, and wherein the selecting controller selects, as the particular key image from the

5   plural specified images, the key images which most resemble to the database images being searched with respect to an average value of degrees of similarities calculated by the calculating means for each type of the feature quantities.

27.   A recording medium storing therein a computer-

10 executable image searching program, said program comprising:

storing a plurality of database images to be searched for in an image database;

specifying a plurality of key images used to specify

15 search conditions by means of a specifying controller;

comparing all of the key images, specified by the specifying controller, with respective feature values of the database images to thereby calculate similarities therebetween, by means of a first calculating controller;

20 selecting by means of a second calculating controller, a particular key image from the plural key images specified by the specifying controller and for comparing the particular key image with the database images to thereby calculate similarities therebetween;

25 calculating, by means of a third calculating

controller, a final similarity for use in searching based on the similarities calculated respectively by the first and second calculating controllers; and

retrieving by means of a searching controller, one of the database images, which is similar to the particular key image, based on the final similarity calculated by the third calculating controller.

28.   The recording medium as claimed in Claim 27, wherein the third calculating controller is operable to increase a weight of the degree of similarity, calculated by the first calculating controller, to a value greater than that of the degree of similarity, calculated by the second calculating controller, to thereby calculate the final degree of similarity.

29.   The recording medium as claimed in claim 28, wherein the first calculating controller is operable to extract the common feature quantities of the image common to all of the key images, and to compare those common feature quantities with the database image to thereby calculate the degree of similarity.

30.   The recording medium as claimed in Claim 29, wherein the second calculating controller is operable to select the key images most similar to the database image from the key images and to calculate the degree of similarity.